Observations of electron density enhancement during an UV explosive event

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High resolution temporal observations performed with the SUMER spectrometer on SOHO provide us the opportunity to investigate the electron density variations in the solar mid transition region due to explosive event–like phenomena. The O IV 1401.16/1404.81 density sensitive line intensity ratio shows a clear increase during a strong explosive event, corresponding to an electron density enhancement of a factor of $\sim$ 3.5 respect to pre-event values. This is consistent with recent MHD simulations (2.5 D) carried out by Karpen et al. (1998).
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Karpen J.T., Antiochos S.K., DeVore C.R. and Golub L., 1998, ApJ 495, 491